

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street SW
Washington, D.C. 20554

VIA ELECTRONIC SUBMISSION

Re: Public Comment on AT&T and NTCA's Petitions to the FCC (GN Docket No. 12-353)

Dear Secretary Dortch:

The Association for Competitive Technology (“ACT”) is an international grassroots advocacy and education organization representing more than 5,000 small and medium sized software and “mobile app” companies, including more than 4,000 based the United States. Given the economic and public value of our industry, ACT’s members are deeply concerned about the future of internet infrastructure.

State of the Mobile Application Market

The mobile app industry was non-existent just five years ago and has grown to a \$20 billion industry today. The industry continues to grow rapidly and is projected to reach \$100 billion by 2015.¹ University of Maryland research identified 182,744 jobs created by the Facebook platform while separate research by ACT and TechNet concluded that the app economy has created between 460,000 and 600,000 jobs. Since the publication of these studies, further evidence has emerged suggesting the widespread impact of apps is even greater than our earlier research revealed. These are jobs that five years ago did not exist and our members continue to tell us that they are still hiring.

More than just creating jobs, the app ecosystem affects millions of Americans and has provided real, tangible benefits to people’s lives. Today billions of apps are downloaded all over the world. We see apps in the classroom helping children learn, in hospitals assisting doctors to provide better patient care, and in businesses allowing for innovation and increased productivity.

Mobile apps work across a dizzying array of devices, from phones and tablets to cars and computers, and are a critical part of why mobile devices are growing in popularity. Apps add tremendous value to the mobile devices and are responsible for much of the success and growth of the platforms on which they run. App makers have transitioned from writing applications for enterprise platforms to selling products directly to consumers.

¹ Egle Mikalajunaite, “The Application Development Market Will Grow to \$US100bn in 2015” RESEARCH2GUIDANCE (July 6, 2011) *available at* <http://www.research2guidance.com/the-Application-Development-Market-Will-Grow-to-US100bn-in-2015/>.

Why We Need Next Generation Services

ACT strongly supports AT&T's proposal to initiate beta tests to facilitate the transition from Time-Division Multiplexing (TDM)-based legacy networks to network infrastructure capable of providing new IP-based services and applications. There are three underlying reasons for ACT's support of the petition: 1. At nearly every level and every device, the transfer of information to consumers has shifted to packet based networks. In short, everything's IP. 2. Consumer demand for the type of communication and information services continues to expand at a remarkable rate – developers must expand and experiment just to stay even with demand. 3. Improvements in mobile technology and packet based networks have allowed app developers to innovate their apps in unexpected ways.

Mobile applications are changing the way consumers are using their smartphones and other mobile devices, which is taxing the existing mobile networks. As of March 2012, over half (50.4 percent) of U.S. mobile subscribers owned smartphones, up from 38 percent in February 2011.² Sales of other mobile devices, like tablets, also continue to rise.³ More and more Americans are choosing to rely only on mobile devices for their telecommunication and a growing segment of the population uses only their mobile devices to access the internet.

Increased use of mobile devices is taxing networks. It's estimated that the average 4G connection generates 28 times more traffic than the average non-4G connection. Mobile data traffic is further expected to increase 18-fold between 2011 and 2016. The dramatic change in use of mobile devices can be clearly illustrated at one of Washington, D.C.'s biggest events; the Presidential inauguration. The transition to the use of mobile devices to communicate with the world is seen clearly in reviewing pictures of the last eight years of inaugural balls.⁴ In 2005, inaugural ball attendees took pictures using their digital cameras. In 2009, more of the ball attendees are using wireless mobile devices to take pictures but most had limited capability to share the data. In 2013, the majority of devices used to take pictures were mobile. These devices were often used to send those pictures to friends and family and to post information on social networks.

When looking at the pictures in the appendix, remember that every single point of light you see is a data connection – one that runs through the wireless infrastructure, but ultimately through middle-mile, lit fiber, and giant router cabinets to get to the intended viewer. Much of today's

² "America's New Mobile Majority: a Look at Smartphone Owners in the U.S.," NIELSEN WIRE (May 7, 2012) *available at* <http://blog.nielsen.com/nielsenwire/?p=31688>; "Smartphones Account for Half of all Mobile Phones, Dominate New Phone Purchases in the US," NIELSEN WIRE (March 29, 2012) *available at* http://blog.nielsen.com/nielsenwire/online_mobile/smartphones-account-for-half-of-all-mobile-phones-dominate-new-phone-purchases-in-the-us/.

³ Michael Rundle, "Flurry Report: More Than 1.7 Billion Apps Downloaded Over Christmas," HUFFINGTON POST UK (January 2, 2013) *available at* http://www.huffingtonpost.co.uk/2013/01/02/flurry-report-apps-christmas-2012_n_2396464.html.

⁴ See Appendix A.

discussion focuses on mobile apps and spectrum. While spectrum is critical, even with unlimited spectrum mobile apps will still rely on a robust IP chain, including middle mile, IP routers, and every other imaginable transmission device.

As adoption of mobile devices has continued to rise, the strain on our network infrastructure grows more severe. A few years ago, most consumers did not send data-rich content wirelessly. They watched movies or sent pictures and video clips from their PCs at home or in the office. Now consumers send and receive this type of data on-the-go. However, the resulting rise in mobile traffic hasn't displaced demand from the home – both continue to grow rapidly.

The impact of increased mobile and connected traffic is greatly felt in the wired network. That is because data transmitted from a mobile device fills the wireline pipe as soon as it leaves the cell tower. This traffic never existed before smartphones and tablets, but now it stretches network capacity. To accommodate this surge in mobile data traffic, substantial improvement in wireline networks is essential. Investing in our IP network infrastructure, the backbone of mobile and wired communications will yield demonstrable improvement for all internet traffic.

Mobile device owners, like the inaugural ball attendees, are constantly demanding faster and more stable wireless and wifi connections. The “there’s an app for that” slogan illustrates that consumers are using apps to solve problems the instant they have them. Whether it is to look up a sport score, hail a taxi, or order takeout, app purchases are often impulse buys based on the immediate need of a consumer. Without a fast and stable network connection, these apps are not available, causing consumers to lose increased functionality of their mobile devices and developers to lose sales on desired apps.

Improvements in mobile technology and networks have allowed developers to improve apps in unexpected ways and adding to the increased demand on mobile networks is the fact that mobile applications continue to grow in size. Data from ABI Research “shows that the global average app size across all categories was 23 megabytes in September [2012], 16 [percent] more than in March.”⁵ These large apps are often the result of developers designing apps to work with the increased functionality of mobile devices, such as “retina display.” The retina display has led not only to innovation in mobile apps on iPhone and iPads but now has moved to laptops and other mobile devices. However, where the technology has improved, so too must the network. If the mobile network is slow, app sales and the small businesses that build them will suffer. In an attempt to prevent problems, AT&T does not allow downloads of apps larger than 50 megabytes on its 3G and 4G network because it would be too taxing on the existing system; a user must wait until they are connected to wifi before the app will download

⁵ “Average Size of Mobile Games for iOS Increases by a Whopping 42% between March and September,” ABI RESEARCH (October 16, 2012) *available at* <http://www.abiresearch.com/press/average-size-of-mobile-games-for-ios-increased-by->.

The need for new network service extends beyond Washington, D.C., and the inaugural balls. The app ecosystem is predominantly a small business community. According to a study conducted by ACT, at least 78 percent of top app developers in the app categories of business, education, productivity, and games are small businesses and nearly 60 percent of top app development companies were outside of California.⁶ Many developers build apps in their spare time and in addition to other jobs. While there are a large number of software developers in Silicon Valley, mobile app development is a job that can be done from anywhere where there is a computer and an internet connection. Increasingly, there are opportunities for developers even in large development firms to work remotely.⁷ In order to continue their geographic spread, mobile application developers in New Hampshire, Idaho, and Alabama need the same fast and reliable network connection.

A stronger connection also allows developers to innovate. When a developer can rely on consumers to have mobile network connections wherever they go, they can design apps which take advantage of that network. A rural doctor could share medical test results with specialists hundreds or thousands of miles away, improving patient care. Students in a classroom could use apps which allow the teacher to independently track their progress and design future lessons around problem areas. Where mobile devices and their owners can connect, there are any number of areas where mobile apps can help improve lives and businesses.

Developers like Vertigo, a digital design and programming firm, design apps which require wireline and wireless. Vertigo tailors bespoke software for a mix of large media, entertainment, and technology companies and have made apps such as NBC Sports Talk and HBO Go: Episode browser. These apps allow for the streaming of content by using wireline or wireless. If these networks do not function correctly, the apps are ineffective. In order to ensure apps like the ones produced by Vertigo continue to serve the consumer, developers and consumers need updated IP networks.

Further, the beta test is the right approach for dealing with expanding wireline IP. As much as expansion of the IP network would assist developers and consumers, small businesses rely on stability and predictability. The incremental approach of the proposed plan allows businesses and individuals to understand and anticipate any changes and adjust their behavior accordingly. It also allows the FCC to identify and address any issues with the transition to IP which may arise during the trials, adding to the security for small businesses and consumers. Ultimately, we

⁶ Jonathan Godfrey, Morgan W. Reed, III, and E. Whitley Herndon, "Apps Across America," ASSOCIATION FOR COMPETITIVE TECHNOLOGY (July 18, 2012) *available at* <http://actonline.org/files/Apps-Across-America.pdf>. The percentage of small businesses is likely even higher, as many apps developed for large businesses were not built internally, but by small contract app development companies, like Zco, based in New Hampshire, or Vertigo from California.


⁷ Damon Payne, "How Badly Do You Really Need Talented Developers?," DAMONPAYNE.COM (January 22, 2013) *available at* <http://www.damonpayne.com/post/2013/01/22/How-Badly-Do-You-Really-Need-Talented-Developers.aspx>.

would like to see the nationwide transition to all IP networks but the beta approach allows for both important upgrading and stability.

Conclusion

Mobile networks are a vital part of life and livelihood for hundreds of thousands of mobile application developers and millions of mobile device owners. As the demand on these networks continues to grow, we need the networks to evolve as well. We urge the FCC to approve this important step forward to ensure that America's mobile networks continue to foster small businesses innovation and growth.

Respectfully,

A handwritten signature in black ink that reads "Morgan Reed". The signature is written in a cursive, flowing style. The signature is placed on a light gray rectangular background.

Morgan Reed
Executive Director

Appendix A

2005 Presidential Inaugural Ball



Photo Credit: <http://carlanthonyonline.com/2013/01/16/the-masses-crowd-two-centuries-of-inaugural-balls/>

2009 Presidential Inaugural Ball



Photo Credit: http://www.boston.com/bigpicture/2009/01/the_inauguration_of_president.html



Photo Credit: <http://www.truthaboutit.net/2009/01/inauguration-photos-from-guy-who-writes.html>

2013 Presidential Inaugural Ball



Photo Credit: <https://www.facebook.com/barackobama>